

WHAT IS CLAIMED IS:

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1. A method of regulating dispensing of fuel from a fuel dispenser having a fuel nozzle to a fuel recipient having a fuel receptacle, at least one of said dispenser and said recipient being ordinarily mobile, said method comprising:

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- (a) establishing an electrical bond between said dispenser and said recipient;
- (b) immobilizing said at least one of said dispenser and said recipient being ordinarily mobile to prevent relative motion of said dispenser and said recipient;
- (c) coupling said nozzle to said recipient at a location in fluid communication with said receptacle; and
- (d) dispensing fuel from said dispenser through said nozzle into said receptacle during a fueling period until a fuel shut-off condition arises.

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25 2. The method as defined in claim 1, further comprising establishing a communication link between said dispenser and said recipient.

30 3. The method as defined in claim 1, further comprising sensing for the presence of said fuel in the vicinity of said recipient during said fueling period at locations external of said receptacle.

4. The method as defined in claim 3, wherein said shut-off condition arises when the concentration of said fuel external of said receptacle exceeds a threshold amount.

5. The method as defined in claim 4, wherein said threshold amount is predetermined.
6. The method as defined in claim 4, wherein said fuel is hydrogen.
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7. The method as defined in claim 1, wherein said shut-off condition arises when said electrical bond between said dispenser and said recipient is disrupted.
- 10 8. The method as defined in claim 1, wherein said shut-off condition arises when said nozzle is decoupled from said receptacle.
9. The method as defined in claim 1, further comprising monitoring the amount of fuel contained within said receptacle.
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- 10 The method as defined in claim 9, wherein said shut-off condition arises when the amount of fuel within said receptacle exceeds a threshold amount.
- 20 11. The method as defined in claim 1, wherein said shut-off condition arises after said fuel has been flowing into said receptacle for a predetermined period of time.
12. The method as defined in claim 1, wherein said recipient is an
25 electrical vehicle having a motor.
13. The method as defined in claim 12, wherein said immobilizing comprises disabling power to said motor.
- 30 14. The method as defined in claim 2, further comprising transmitting a signal from said recipient to said dispenser via said communication link verifying that said recipient is immobilized.

15. The method as defined in claim 2, further comprising transmitting a signal from said recipient to said dispenser via said communication link verifying that said nozzle is coupled to said receptacle.
- 5 16. The method as defined in claim 2, further comprising transmitting a signal via said communication link verifying that said electrical bond between said dispenser and said recipient has been established.
- 10 17. The method as defined in claim 1, wherein said establishing an electrical bond between said dispenser and said recipient comprises coupling an electrical ground cable therebetween.
18. The method as defined in claim 1, wherein said recipient is an electrical vehicle having a fuel cell power supply system.
- 15 19. The method as defined in claim 18, wherein said electrical vehicle is a non-road lift vehicle.
- 20 20. The method as defined in claim 1, herein said nozzle is lockably coupled to said receptacle during said fueling period.
21. The method as defined in claim 1 wherein, after said shut-off condition arises, said method further comprises:
 - 25 (a) electrically disconnecting said dispenser and said recipient;
 - (b) decoupling said nozzle from said receptacle; and
 - (c) enabling mobilization of said at least one of said dispenser and said recipient being ordinarily mobile.
- 30 22. The method as defined in claim 21, wherein said recipient is an electric vehicle having a motor and wherein the step of enabling

mobilization of said at least one of said dispenser and said recipient comprises providing power to said motor.

23. The method as defined in claim 1, wherein said dispenser comprises a fuel supply, a fuel supply conduit extending between said fuel supply and said nozzle and a control valve for regulating flow of fuel through said fuel supply line, wherein said control valve is closed when said fuel shut-off condition arises.

10 24. The method as defined in claim 1, wherein said dispenser comprises a fuel supply, a fuel supply conduit extending between said fuel supply and said nozzle and a pump for pumping fuel through said fuel supply line, wherein said pump is disabled when said fuel shut-off condition arises.

15 25. A system for regulating flow of fuel between a fuel dispenser having a fuel nozzle and a fuel recipient having a fuel receptacle during a fueling period, said system comprising:

20 (a) an electrical connector for electrically coupling said dispenser to said recipient;

(b) an interlock for lockably coupling said nozzle to a fuel inlet on said recipient in communication with said receptacle;
25 and

(c) an immobilization subsystem for preventing relative motion of said dispenser and said recipient during said fueling period.

30 26. The system as defined in claim 25, further comprising a communication subsystem for transmitting control signals between said dispenser and said recipient.

27. The system as defined in claim 25, wherein at least one of said fuel recipient and said fuel dispenser comprises a mobile unit and wherein said immobilization subsystem disables power to said mobile unit during said fueling period.

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28. The system as defined in claim 27, wherein said mobile unit is a non-road electrical vehicle having a motor and wherein said immobilization subsystem disables power to said motor during said fueling period.

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29. The system as defined in claim 25, further comprising a fuel sensor for sensing the presence of fuel in the vicinity of said recipient external of said fuel receptacle during said fueling period.

15 30. The system as defined in claim 29, wherein said fuel sensor is a hydrogen sensor.

31. The system as defined in claim 25, wherein said electrical connector is a ground cord connectable between said dispenser and said recipient.

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32. The system as defined in claim 31, wherein said recipient is positionable within a fueling zone proximate said dispenser and wherein said ground cord is not extendable outside of said fueling zone.

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33. The system as defined in claim 25, further comprising a fuel supply subsystem for preventing fuel flow from said dispenser to said recipient other than during said fueling period.

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33. The system as defined in claim 25, wherein said fuel supply subsystem comprises a valve adjustable between an open position permitting flow of fuel through said nozzle into said inlet during said

fueling period and a closed position preventing flow of fuel into said inlet.

34. The system as defined in claim 25, wherein said fuel supply
5 subsystem comprises an adjustable fuel pump for pumping fuel
through said nozzle into said inlet during said fueling period.

35. The system as defined in claim 25, wherein said interlock com-
prises a mechanical coupler for releasably coupling said nozzle to said
10 inlet.

36. The system as defined in claim 25, wherein said electrical connec-
tor is wireless.

15 37. The system as defined in claim 26, further comprising a controller
operatively coupled to said communication subsystem.

38. The system as defined in claim 33, further comprising a controller
operatively coupled to said fuel supply subsystem.

20 39. The system as defined in claim 25, wherein said immobilization
subsystem physically constrains said recipient within a fueling zone
proximate to said dispenser during said fueling period.

25 40. The system as defined in claim 25, wherein said recipient is
stationary and said dispenser is ordinarily mobile.

41. The method as defined in claim 1, wherein said method is per-
formed indoors.

30 42. The method as defined in claim 1, wherein said shut-off condition
arises when a sensor internal to said recipient detects an unsafe operat-
ing condition.